REMARKS

Claims 1-7 are currently pending in the application, with claim 1 being independent.

The Examiner is respectfully requested to reconsider the rejections in view of the remarks set forth herein. Applicant respectfully requests favorable consideration thereof in light of the comments contained herein, and earnestly seeks timely allowance of the pending claims.

REJECTION OF CLAIMS UNDER 35 U.S.C. § 103

Claims 1-7 have been rejected under 35 U.S.C. § 103(a) as being made obvious by Kawakita (Japanese Patent Publication No. 2002-096344) in view of Kawakita II (Japanese Patent Publication No. 2002-096332). This rejection is respectfully traversed.

Applicant respectfully submits that the Examiner has failed to establish a *prima facie* case of obviousness.

To establish a *prima facie* case of obviousness, the Examiner has the burden of meeting the basic criterion that the prior art must teach or suggest all of the claim limitations. Regarding this basic criterion, Applicant submits that Kawakita, Kawakita II and any combination of these references (assuming these references can be combined, which Applicant does not admit) do not disclose or suggest "designing a second temporary optical device for optimizing a form so as to exhibit a wavefront aberration with the correction wavefront aberration amount $-\Delta$ without using a table prepared beforehand which shows a relationship between a deviation of the wavefront aberration amount Δ and a deviation of the optical parameter" as claim 1 recites.

As acknowledged by Examiner, Kawakita does not design a second temporary optical device for optimizing a form so as to exhibit a wavefront aberration with the correction wavefront aberration amount $-\Delta$ without using a table prepared beforehand which shows a relationship between a deviation of the wavefront aberration amount Δ and a deviation of the optical parameter. In the Office Action, the Examiner alleged that Kawakita II discloses this feature. Specifically, the Examiner alleged that Kawakita II "uses an optical simulation and evaluation to calculate the correction wavefront aberration amount not a table prepared beforehand" (page 3 of Office Action).

Applicant respectfully disagrees. Kawakita II does not remedy the deficiencies of Kawakita, as explained in detail below.

The English Abstract of Kawakita II describes a method for providing a lens which has desired optical properties, by designing a mold die based on tolerance limits of optical evaluation. Kawakita II includes 9 drawings described at paragraphs [0017]-[0033] of the English machine translation. Drawings 3a and 3b of Kawakita II illustrate interference fringe measurements and aberration measurements for an object lens 1 fabricated with a provisional mold 2, and drawing 4 illustrates a surface shape of the object lens 1 (paragraphs [0024], [0025]). Drawing 5 illustrates a surface shape of provisional mold 2 which was used to fabricate object lens 1 (paragraph [0027]), and drawing 6 illustrates an optical simulation result for a virtual lens 1 with a surface shape as that illustrated in drawing 5 (paragraph [0028]). Drawing 7 illustrates a surface measurement for another mass production mold 2 created in a shape similar to the provisional mold 2 (paragraph [0031]), and drawing 8 illustrates an optical simulation result for a mass production virtual lens 1 with a surface shape as that illustrated in drawing 7 (paragraph [0032]). Finally, drawing 9 illustrates optical parameters for a lens similar to object lens 1, where the optical parameters also include a difference between optical parameters for virtual lens 1 and optical parameters for mass production virtual lens 1 (paragraph [0033]).

Kawakita II does not design an optical device for optimizing a form so as to exhibit a wavefront aberration with the correction wavefront aberration amount $-\Delta$ without using a table prepared beforehand which shows a relationship between a deviation of the wavefront aberration amount Δ and a deviation of the optical parameter. Kawakita II performs optical simulations to obtain lens surface parameters for a lens equation (paragraph [0029]) using a lens surface shape shown in drawings 5 and 7. Specifically, Kawakita II inputs a lens surface shape, such as the lens surface shape illustrated drawing 5 or 7, and outputs a table (drawing 6 or 9) which illustrates aberration as related to aspherical surface constants. Claim 1 recites calculating a correction wavefront aberration amount compensating for the wavefront aberration amount, and designing an optical device for optimizing a form so as to exhibit a wavefront aberration with the correction wavefront aberration amount. Therefore, in the method recited in claim 1, a wavefront aberration amount is input (is used as an input) and a correction wavefront aberration amount is then calculated to be used in the designing step. The simulation method of Kawakita II is different from "calculating a correction wavefront aberration amount compensating for the wavefront aberration amount, and designing an optical device for optimizing a form so as to

exhibit a wavefront aberration with the correction wavefront aberration amount" as claim 1 recites, because Kawakita II does not use a wavefront aberration amount as an input. The lens surface shape (illustrated drawing 5 or 7 of Kawakita II) which is the input to the optical simulation in Kawakita II is not a "wavefront aberration amount" or a "correction wavefront aberration amount". Furthermore, the aberration amounts listed in drawing 6 or 9 of Kawakita II are not input parameters for the optical simulation either. The aberration amounts listed in drawing 6 or 9 are the results (output data) of the optical simulation and are not input parameters for the optical simulation.

Furthermore, the optical simulation of Kawakita II uses a table prepared beforehand, contrary to Examiner's assertion. Contrary to the feature recited in claim 1, the method of Kawakita II uses a table prepared beforehand, since Kawakita II obtains optical parameters for a lens using a difference between optical parameters for a virtual lens 1 and a mass production virtual lens 1, by calculating a difference between tables of aberration values for optical parameters of virtual lens 1 and mass production virtual lens 1 (drawing 9, paragraph [0033]). Thus, Kawakita II does not disclose "designing a second temporary optical device for optimizing a form so as to exhibit a wavefront aberration with the correction wavefront aberration amount $-\Delta$ without using a table prepared beforehand which shows a relationship between a deviation of the wavefront aberration amount Δ and a deviation of the optical parameter", as claim 1 recites.

In the method claimed in claim 1, the correction measures for an optical device surface shape are described, and these measures comprise: a) obtaining the correction wavefront aberration amount $-\Delta$ using a measured wavefront aberration amount Δ; and b) using this correction amount $-\Delta$ as an input optical parameter for the optimization designing step. Kawakita II does not refer to any concrete correction measures, and only describes calculating an aberration amount which is not used as a correction measure. Specifically, Kawakita II compares the tables for virtual lens 1 and mass production virtual lens 1 for calculating an aberration value, but this aberration value is not used as a correction measure.

Kawakita II shows the judgment measures for judging whether the mass production-type molding die is good or not (suitability of molding die) by measuring and evaluating the mass production-type molding die, without making an objective actual lens. However, Kawakita II does not describe details of any correction measures. Kawakita II only describes that

designing/making the tentative mass production-type molding die is repeated until an optical evaluation of a tentative mass production-type imaginary lens falls within tolerance limits of an optical evaluation (as explained in the Japanese paragraph [0011] of the Japanese publication of Kawakita II), and that when the tentative mass production-type molding die 2 is designed/made, it is good to design/make it by taking an optical evaluation of the tentative mass production-type imaginary lens and an optical evaluation of the reference imaginary lens 1 into consideration (Japanese paragraph [0037]). Kawakita II does not, however, provide any detail about a concrete measure to correct wavefront aberration so as to reduce the wavefront aberration amount.

Therefore, the method of claim 1 which does not use a table prepared beforehand is neither described nor suggested by Kawakita II. Therefore, Kawakita and Kawakita II fail to teach or suggest all of the elements for claim 1.

In view of the above, claims 1-7 are patentable over Kawakita and Kawakita II. The allowance of claims 1-7 is respectfully solicited.

CONCLUSION

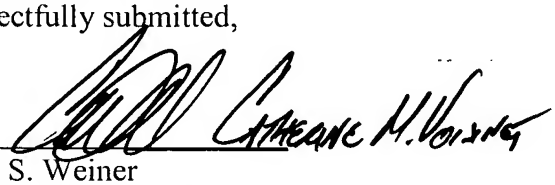
In view of the above, Applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Corina E. Tanasa, Registration No. 64,042, at telephone number (703) 208-4003, located in the Washington, DC area, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§ 1.16 or 1.14; particularly, extension of time fees.

Date: November 20, 2009

Respectfully submitted,

By 

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